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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,590	03/09/2001	John H. Santhoff	32129-1005	6109

7590 04/08/2003

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EXAMINER

BURD, KEVIN MICHAEL

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 04/08/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

TT

Office Action Summary	Application No. 09/802,590	Applicant(s) SANTHOFF ET AL
	Examiner Kevin Burd	Art Unit 2631
<i>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</i>		
Period for Reply		
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.		
<small>- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.</small>		
<small>- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.</small>		
<small>- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.</small>		
<small>- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).</small>		
<small>- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).</small>		
Status		
1) <input checked="" type="checkbox"/> Responsive to communication(s) filed on <u>Feb 19, 2003</u>		
2a) <input checked="" type="checkbox"/> This action is FINAL. 2b) <input type="checkbox"/> This action is non-final.		
3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11; 453 O.G. 213.		
Disposition of Claims		
4) <input checked="" type="checkbox"/> Claim(s) <u>1-10</u> is/are pending in the application.		
4a) Of the above, claim(s) _____ is/are withdrawn from consideration.		
5) <input type="checkbox"/> Claim(s) _____ is/are allowed.		
6) <input checked="" type="checkbox"/> Claim(s) <u>1-10</u> is/are rejected.		
7) <input type="checkbox"/> Claim(s) _____ is/are objected to.		
8) <input type="checkbox"/> Claims _____ are subject to restriction and/or election requirement.		
Application Papers		
9) <input type="checkbox"/> The specification is objected to by the Examiner.		
10) <input type="checkbox"/> The drawing(s) filed on _____ is/are a) <input type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).		
11) <input type="checkbox"/> The proposed drawing correction filed on _____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner. If approved, corrected drawings are required in reply to this Office action.		
12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner.		
Priority under 35 U.S.C. §§ 119 and 120		
13) <input type="checkbox"/> Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) <input type="checkbox"/> All b) <input type="checkbox"/> Some* c) <input type="checkbox"/> None of: 1. <input type="checkbox"/> Certified copies of the priority documents have been received. 2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____. 3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). *See the attached detailed Office action for a list of the certified copies not received.		
14) <input type="checkbox"/> Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e). a) <input type="checkbox"/> The translation of the foreign language provisional application has been received.		
15) <input type="checkbox"/> Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.		
Attachment(s)		
1) <input type="checkbox"/> Notice of References Cited (PTO-892)		
4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____		
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)		
5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)		
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____		
6) <input type="checkbox"/> Other: _____		

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DETAILED ACTION

1. This office action, in response to the remarks filed 2/19/2003, is a final office action.

Response to Arguments

2. Applicant's arguments filed 2/19/2003 have been fully considered but they are not persuasive. Applicant states the system of Tyler does not employ a pulse pair type of transmission as taught by Smischny. However, Tyler discloses in figure 10 transmitting pulse pairs and states in column 45, line 57 to column 46, line 2, this response can be suppressed effectively by changing the fundamental pulse waveform from a simple pulse to a pair of pulses of opposite sign. Applicant states there are many differences in the types of systems disclosed by Tyler and Smischny. However, Smischny discloses a method of detecting errors in pulse pair transmissions after each pulse pair is received. This method of detecting the logic level of the received signals would allow errors to be detected quicker as stated in the previous office action. For these reasons, the rejections of the claims are maintained and stated below.

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3-6, 9 and 10 are rejected under 35 U.S.C. 102(b) as being unpatentable over Tyler et al (US 5,920,278) in view of Smischny (US 5,166,890).

Regarding claims 1, 3-5, 9 and 10, Tyler discloses transmitting bipolar pulse pair comprising a positive and negative pulse as shown in figure 10 in an ultra wideband communication system. The amplitude and pulse width of the pulses are equal to one another. The pulses are received in the receiver and a correlation detector compares the received signal with a reference copy of the transmitted broadband signal at the receiver to determine if errors are present (column 11, line 58 to column 12, line 12).

Tyler does not disclose correlating the received pulses to determine if errors are present before receiving the complete transmission. Smischny discloses an error detection system and method which detects errors in a received data transmission. DS-1 signals are transmitted as a bipolar bit stream in which the polarity of succeeding pulse is reversed so that the ONE's of the stream alternate as positive or negative levels about the ZERO level (column 1, lines 30-35). Each time successive pulses in the digital signal are of the same polarity, the monitor produces a logic level signal

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because it is assumed that this detected situation arises due to external events such as noise operating on the signal (column 1, lines 39-47). When two ONE's are to be transmitted, a positive pulse and a negative pulse are transmitted. If two successive pulses of the same polarity are received, an error is detected since the comparison between the two pulses yields an unsatisfactory result. A bipolar violation is shown in figure 2. The pulses of figure 2 have the same pulse width and amplitude and appear in appropriate "timing windows". The measurement of the pulses to determine if an error is present occurs when each pulse pair is received. It would have been obvious for one of ordinary skill in the art at the time of the invention to measure errors in a pulse pair transmission after each pulse pair has been received as disclosed by Smischny in an ultra wideband communication system as described by Tyler to detect errors quicker. Instead of waiting for an entire transmission to be received, errors are detected earlier and appropriate error correction can take place quicker.

Regarding claim 6, when an error occurs, it is counted and stored (abstract).

5. Claims 2, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tyler et al (US 5,920,278) in view of Smischny (US 5,166,890)as stated above, further in view of Trotter (US 5,862,141).

Regarding claims 2, 7 and 8, the combination stated above discloses the method and system of transmitting pulse pairs in an ultra wideband communication system and

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detecting errors prior to receiving the entire transmission. However, the combination does not disclose using the number of calculated errors to determine how the errors will be corrected. Trotter discloses using conventional error correction methods that are well known in the art to eliminate errors in a data transmission but for high error rates, these methods may not be sufficient. In this case, the data will have to be retransmitted (column 1, lines 28-47). This is advantageous since it avoids time consuming data retransmission when only a few errors are present and can be corrected by well known methods. It would have been obvious for one of ordinary skill in the art at the time of the invention to use the method of error correction of Trotter in the method and system of data transmission of the combination of Tyler and Smischny. The stored representation of errors allow either data correction or retransmission to take place depending on that number of errors present.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any response to this final action should be mailed to:

Box AF

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications; please mark
"EXPEDITED PROCEDURE" or for informal or draft
communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Burd, whose telephone number is (703) 308-7034. The Examiner can normally be reached on Monday-Thursday from 9:00 AM - 6:00 PM.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

4/7/03


Kevin M. Burd
PATENT EXAMINER
April 3, 2003